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ABSTRACT

A series of experiments explored the use of television in Israel to teach English to Hebrew-Speaking students. The emphasis of the experiments was on assessing the ways in which television can be used to fultill specific tasks in language instruction that are not easily fulfilled by the classroom teachers. Ninth graders were divided into two groups: One group received the standard course of English-language instruction; a second group had English-language instruction supplemented by a television program which presented the spoken language in natural context and in every day situations. The ninth graders who had the television experience showed a better understanding of English-language films and audio tapes, as well as better achievement in active speech. The contribution of television to understanding from audio tapes proved to be particularly great in pupils whose IQ was less than 110. The greater amount of exposure to oral presentations did not have a negative effect on reading comprehension. (JY)

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USING TELEVISION FOR TEACHING A SECOND LANGUAGE THROUGH DRAMATIZED EVERY DAY SITUATIONS - AN ASSESSMENT OF EFFECTS ON ACTIVE SPEECH AND ON UNDERSTANDING DIALOGUES PRESENTED BY OTHER MEDIA.

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SUMMARY

The series of experiments reported in this paper show that when television is used to fulfill specific tasks in language teaching, which cannot be easily fulfilled by the classroom teacher, even a one-year course, in which the exposure to TV consists of less than 10% of the total teaching, significant results can be obtained in the achievement on several learning tasks related directly or indirectly to the nature of the TV presentations. Some of the results indicate that TV was particularly helpful for those pupils whose IQ scores were low.

In the teaching of English in Israel, TV was used to present the spoken language in natural context and in every day situations. This led to a better understanding of English speaking films and audio tapes, as well as to better achievements in active speech, among 9th grade pupils who took a one-year course with TV than among their counterparts who studied the same curriculum without TV.

The contribution of TV to understanding from audio tapes proved to be particularly effective in the lower IQ levels: Among pupils whose IQ was less than 110, those who studied English with TV made a greater progress in understanding plays recorded on tapes than those who studied without TV. The differences between TV and non-TV pupils were particularly marked in the lowest levels of IQ, i.e.: less than 80 and 80-90.

The greater amount of exposure to oral presentations (caused by attending the TV course) did not have a negative effect on reading comprehension.

INTRODUCTION

The central question underlying the series of experiments reported in this paper is not the general question as to whether a TV course in English can teach better than the classroom teacher, but rather a more specific one: "Can a course in which the use of the medium is planned to fulfill specific tasks which can't be easily fulfilled by the classroom teacher, contribute to the learning of these tasks more than ordinary teaching, even when the exposure to television consists of only a small part of the total teaching?"

In planning the television course for 9th grade pupils, by the Instructional TV Centre in Israel, it was thought that television could make a unique contribution to the teaching of a second language by providing exposure to the spoken language in natural situations. Accordingly, emphasis was put on the presentation of linguistic material through dramatic situations. (Approx. 10 out of 20 min. in each telecast were devoted to dramatized dialogues in natural situations, demonstrating the use of the linguistic structure taught in the telecast).

The 25 telecasts included in the course were transmitted once a week and constituted less than 10% of the total teaching, i.e. 20 minutes out of 225 minutes per week. The course was aimed at pupils in their 4th year of learning English, who had not learned English with the aid of TV before.

Most of them had learned other subjects such as Math and Biology with TV in the elementary school. *

It was thought that the approach adopted, using the medium for presenting dramatic situations, would contribute to a better understanding of the spoken language when presented through other media, such as films or tape recordings, as well as to improvement in active speech.

A series of experiments carried out by the research department in ITC in Israel during the years 1968-1970 represent an attempt to assess these possible contributions.

The Hypotheses underlying the experiments were as follows:

1. UNDERSTANDING VISUAL PLUS ORAL PRESENTATION VIA ANOTHER MEDIUM -- FILMS:

   A one year television course in English which is aimed at 9th grade pupils

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* considering the possibility of a Hawthorn effect, it should be remembered that for the TV pupils, learning with TV was not a new experience. Only the learning of English with TV was new. As for the teachers -- for both those who taught with and without TV, teaching according to the ESH curriculum was an equally new experience.

and emphasizes presentations of TV dialogues through dramatized every day situations will result in a better understanding of English speaking films than a similar course, based on the same curriculum, which does not use television, or an equivalent audio-visual medium such as 16 mm films, film loops, cassette prcjectors, etc. *

2. UNDERSTANDING AUDITORY PRESENTATIONS VIA ANOTHER MEDIUM --

TAPE RECORDINGS:

The one-year television course in English for 9th grade pupils will contribute to a better understanding of dramatic situations presented on tape recorders than a similar course, based on the same curriculum which does not use television or any other audio visual medium which would have fulfilled the same function.

3. UNDERSTANDING A READING PASSAGE:

Pupils who take the TV course might demonstrate less understanding of a reading passage than those who study the same curriculum without TV.

4. EFFECT ON ACTIVE SPEECH:

Exposure of 9th grade pupils to one year TV course in English which emphasizes presentation of dialogues in natural situations will result in better achievement in active speech than the studying of similar courses in which television is not used.

SAMPLE POPULATIONS FOR THE EXPERIMENTS

TESTING HYPOTHESES 1-3

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* A systematic use of films, film loops, radio or tapes in the teaching of the 9th grade English in Israel is very rare. Therefore, television was the only medium readily available for fulfilling the tasks under consideration and the question of whether or not another medium could have had similar effects was irrelevant for the situation.

Since all the experiments reported in the paper were carried out during the first years of the Instructional TV Centre's activity, it was possible to select for the experiments,9th grade pupils who did not learn English with television in an earlier grade. The experimental year was their first year of learning English with television.

Each of the 3 experiments included two parallel groups of pupils. Group (a) took the TV course and group (b) took the parallel course designed by the Tel-Aviv University called "ESH" (English for speakers of Hebrew). Both groups (experimental and control) followed the same curriculum in English, and used the same reading and language material, but the TV group received in addition one telecast per week throughout the school-year.

In both the TV and the non-TV populations, classes were randomly selected, in the vicinity of Tel-Aviv. A check on the distributions of sex, of speaking a second language at home, and of previous knowledge of English showed no difference between the experimental and the control groups (see Appendix, tables 1 and 2). The groups were also equal in terms of achievement on a standardized vocabulary test given to them at the beginning of each experiment.

For those pupils who participated in the 1st experiment, on understanding

English-speaking films*, frequency of going to English speaking movies during the experimental year was reported periodically (4 times during the school year). Here also no marked differences in the exposure to English speaking films were found between the TV and the non-TV groups (see Appendix, table 3).

The following table shows the number of pupils participating in each experiment:

Table 1: No. of pupils participating in each experiment

	Experiment I (Understanding Films)	Experiment II (Understanding Tapes)	Experiment III (Reading Comprehension)
TV pupils	191	531	203
Non-TV pupils	191	563	195

Research Methods and The Experimental Design of Experiments 1-3.

In each of the three experiments all pupils (in both the experimental and the control group) were given two tests -- one at the beginning of the school year and one at the end of the year.

For each experiment, tests relevant to the hypothesis tested, were designed in the following way:

In the first experiment each of the two tests consisted of watching a short film,

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* The test used was taken from a survey by the School of Education in the Hebrew University in Jerusalem (1958) called "The Teaching of English in Israel."

followed by answering a series of multiple choice questions related to its content. The questions were read orally to the pupils by a qualified English speaking teacher employed specifically for this purpose.

In the second experiment the tests included half an hour of listening to a play recorded on a tape recorder, followed by answering a series of multiple choice questions related to its content. In this experiment, which was carried out one year later, a change was introduced in the procedure and the test questions were read to the pupils in Hebrew (it was thought that this procedure would eliminate the possible effect of not understanding the question itself).

Each of the tests for the third experiment, reading comprehension, required the pupils to read a short passage (of 35 lines) and then to answer a series of questions related to its content, as well as finding out the most "suitable" meaning for key words in the passage.

All the test-questions were pilot-tested in a school and approved by 2 linguistic experts, 2 experienced teachers, 1 inspector and 2 research workers. Only those questions on which there was consensus that they truly tested the meaning of the content were included in the final test.

The use of two different parallel tests instead of a repeated test eliminated the possibility that better achievement at the end of the year may be accounted for by a second

exposure to the test itself rather than by improvement in understanding the language. This was particularly important for the plays presented on films and tapes.

In order to cancel out unpredictable differences between the two parallel tests of each experiment, a "cross over" design was employed, as specified in the table below. Administering "before" and "after" tests permitted the use of "analysis of covariance" instead of the usual T test whenever the initial level of achievement (as indicated by the "before" test), was not equal between the experimental and the control groups. Such a situation could occur, since the random selection of samples related to a small number of whole classes and not to individual pupils.

In addition to the experimental tests all pupils were given the vocabulary test once again at the end of the school year.

For the pupils who participated in the tape recording and reading comprehension experiments, IQ was measured as well.

The experimental design for each of the 3 experiments was as follows:

Each sample group (experimental and control) was divided into two parallel sub-groups, each to be given the parallel tests A and B in reverse order.

The following table demonstrates the procedure:

	Experimental group (TV classes)		Control group (Non-TV classes)	
	Sub group I	Sub group II	Sub group I	Sub group II
Beginning of school year	Exp. Test A & Voc. Test	Exp. Test B & Voc. Test	Exp. Test A & Voc. Test	Exp. Test B & Voc. Test
End of school year	Exp. Test B & Voc. Test	Exp. Test A & Voc. Test	Exp. Test B & Voc. Test	Exp. Test A & Voc. Test

The experimental tests A & B were parallel in terms of their linguistic level of difficulty, the nature of the situation presented, the actors, the length of the presentations and the variety of different dialects presented.

The linguistic level of difficulty was at approximately the level aimed at for the second half of 9th grade English.

SAMPLE POPULATION FOR EXPERIMENT 4 WHICH TESTED HYPOTHESIS 4, THE EFFECT OF THE TV COURSE ON ACTIVE SPEECH.

In 1968 two schools were found in which the same teacher taught one class with TV and a paraliei class in the same school without TV. In one school the teacher was a native speaker (American) while in the other school the teacher was an Israeli.

This lucky situation permitted the design of a small scale experiment based on

individual oral tests given to matched samples of pupils.

From each class 6 pupils were selected: two above average, two average and two below average. Pupils from parallel classes in the same school were matched in pairs, in terms of their teachers' marks in English as well as according to their achievements on a short oral pre-test given as the first part of the experimental test.

Experimental Design of Experiment 4.

Since the purpose of this experiment was to compare the achievements of TV pupils in active speech, a special individual oral test had to be designed. The test questions were recorded on a tape recorder and each question was followed by a pause to permit the pupils' answer to be recorded on a second tape recorder.

The test included 3 parts -- an informal set of simple questions of introduction such as, "what's your name," "where do you live?" etc., and two formal parts consisting of 18 questions, related to structure and pronunciation. Its total length was 20 minutes. The instructions were given in Hebrew while the questions and answers were given in English.

The test was designed by a linguistic expert and its level of difficulty was aimed at the 2nd half of the 9th grade. The answers were marked on both pronunciation and sentence construction. The tapes with the recorded answers were marked by two independent linguists from Tel-Aviv University. On the tapes there was no indication as to whether the pupil belonged to a TV or a non-TV class.

The experimental design was as follows:

	Group A TV Pupils			Group B Non-TV Pupils		
	Above Average	Average	Below Average	Above Average	Average	Below Average
School I Israeli Teacher	2	2	2	2	2	2
School II American Teacher	2	2	2	2	2	2

Pupils in groups A and B within each school were individually matched.

Because of the small samples a non-parametric statistical technique was used in the analysis of the results.

RESULTS

1. The effect of the TV course on understanding Films in English.

The results of the first experiment show that using television for demonstrating the spoken language in a natural context results in a greater understanding of English-speaking films.

Although after a one-year course of English both TV and non-TV pupils made progress in understanding films, TV pupils did significantly better at the end of the course than pupils who studied without TV.

No significant difference was found between the groups in the achievement on the general vocabulary test. This finding suggests that the effect of the TV course was specifically related to the type of skill which it was designed to develop.

The experiment on understanding films was carried out in 1968 and was the first in the series. The data related to this experiment was analysed only in general terms of differences between averages.

It was only in the following experiments, on understanding tapes and printed material, that a more detailed analysis took place, in relation to pupils' level of intelligence and initial level of English vocabulary.

The following table shows the results of the 1st experiment:

Table 2:

Mean scores, standard deviation and T values for Film Experiment

(See Chart on following page)

Type of Test	TV Pupils N=191		Non-TV Pupils N=191		T Values for differences
	Mean	S.D.	Mean	S.D.	
Film Tests					
1st Film test (at the beginning of the year)	7.4 (out of 15 questions)	3.3	7.9	3.3	1.51 not significant
2nd film test (at the end of the year)	9.9 (out of 15 questions)	3.3	8.9	3.5	2.73** significant at .01 level
Vocabulary Tests					
Beginning of the year	28.1 (out of 80 items)	10.8	27.8	12.2	-
End of year	32.2	10.4	40.2	13.1	1.64 not significant

2. The effect of the TV course on understanding short plays presented on a tape recorder.

The second experiment, on understanding short plays presented on tapes, was carried out in 1970, when the use of TV in the schools was more widely spread. This enabled us to enlarge the sample to approximately 1000 pupils.

Although the group means on the "before" test were fairly similar, the analysis of covariance was chosen as the technique of comparison, to allow even for the slight differences which were found. Separate analysis was carried out for each pair of

groups (TV and non-TV), which were given tests A & B in the same order.

Results for both groups showed that TV pupils had, at the end of the course, a significant advantage over non-TV pupils in understanding plays presented to them on tape recorders. In other words, the hypothesis regarding the carry-over that the TV course has to a purely auditory medium should be accepted.

Tables 3 and 4 show the results in terms of group means and the F ratios for the differences between them:

Table 3:

Tape Tests: Group Means and F ratios:

	TV Pupils N=256		Non-TV Pupils N=258		F ratio for differences (indicated in analysis of covariance)
	Mean	SD	Mean	SD	
Order of tests:					
"The Trip"-before	7.9 (out of 14 q)	2.4	7.8	2.5	6.15 d.f. 1/511
"The Hidden Treasure" - after	9.7	2.6	9.1	2.7	Sig. at 0.025 level

(table continued next page)

Table 3: (continued)

	TV Pupils N=275		Non-TV Pupils N=305		F ratio for differences (indicated in analysis of covariance)
	Mean	SD	Mean	SD	
"The Hidden Treasure" before	7.8 (out of 14 q)	2.9	7.7	2.7	11.088 d.f. 1/577
"The Trip" after	9.6	2.6	9.1	2.4	Sig. at 0.005 level

Table 4:

Tape Tests: Analysis of Covariance

Source	SEE	DF	MSQ	F
"The Trip" 1st "The Treasure" 2nd				
Within	2715.431	511	5.314	F 1/511 = 6.150
Between	32.681	1	32.681	
Total	2748.112	512	--	Sig. at 0.025 Level
"The Treasure" 1st " The Trip" 2nd				
Within	2766.246	577	4.794	F 1/577 = 11.088
Between	53.158	1	53.158	
Total	2819.404	578	--	Sig. at 0.001 Level

The following table shows the results on the general vocabulary tests for pupils who participated in the experiment on understanding plays recorded on tapes.

Table 5: Results of Vocabulary tests related to tape Experiment

	TV Pupils		Non-TV Pupils	
	Mean Score	SD	Mean Score	SD
Vocabulary Test given at the beginning of the experiment	31.8 (out of 80 questions)	9.1	28.7 after adjustment 30.9	11.1 9.8
Voc. Test given at the end of the experiment	42.2 (out of 80 questions)	9.8	40.8 after adjustment 41.6	14.1 11.2

The analysis of covariance showed no significant difference between the two groups regarding their progress in vocabulary, a finding which reinforces the notion that the effect of TV is specific, and in accordance with the special contribution which the course was designed to make.

Table 6: Analysis of Covariance - Table of results for vocabulary tests:

Source	SS	DF	MSQ	F 1/468
Within	35080.082	468	74.957	.017
Between	1.300	1	1.300	not significant
Total	35081.382	469		

Looking at the pupils'progress on the tape tests, in relation to their IQ scores, revealed an interesting and most encouraging result: TV particularly helped pupils whose IQ level was below average (i.e. less than 105).

As can be seen from table 7 -- in the four lower levels of IQ, TV pupils advanced more than non-TV pupils in understanding plays recorded on tapes. In the two high IQ groups, the progress made by TV pupils was similar to that made by pupils who studied English without TV. The latter did slightly better on the second tape test (at the end of the year) but their initial achievement on the first test was also slightly higher. Moreover, in the non-TV group the gap in achievement between high and low IQ levels increased at the end of the year, while in the TV group it did not.

Table 7: ACHIEVEMENTS ON TAPE TESTS IN RELATION TO IQ LEVEL

IQ level	with TV					without TV					T Value for difference in after test
		Before Test		After Test			Before Test		After Test		
	N	$\bar{X}$	SD	$\bar{X}$	SD	N	$\bar{X}$	SD	$\bar{X}$	SD	
	531					563					
-80	21	6.2	2.4	8.1	2.9	20	6.7	1.8	6.6	2.0	3.6**
81-90	53	6.3	2.0	7.8	2.4	53	6.8	2.2	6.8	2.6	2.1*
91-100	108	6.9	2.6	8.7	2.4	111	7.0	3.4	8.4	2.7	
101-110	155	7.4	2.6	9.8	2.2	184	8.1	2.4	9.7	2.4	
111-120	152	8.5	3.0	10.3	2.2	162	8.9	2.5	10.5	2.2	
120+	42	9.5	2.4	11.2	1.6	33	10.0	2.2	11.4	1.4	

Average IQ level = 105

** = Significant at .001 level
* = Significant at .025 level

3. RESULTS OF EXPERIMENT 3 -- READING COMPREHENSION.

The results of the third experiment show that the TV course did not have a negative effect on reading comprehension. Neither TV nor non-TV pupils made much progress in understanding a reading passage throughout the school year. In each group the average difference between the achievement on the test given at the beginning of the school year and that given at the end of the school year did not exceed 10%. No significant differences were found between the TV and the non-TV pupils.

Since less than half of the classes returned the vocabulry test given at the end of the year, and since the returning ratios were not the same for TV and non-TV pupils, it was not possible to carry out an analysis regarding differences in progress on vocabulary.

Table 8: Mean scores, Standard deviations and F ratios for experiment 3 - on reading comprehension

	TV Pupils total = 203			Non-TV Pupils total = 195			Ratios for differences - indicated by analysis of COV
	Mean	SD(sxx)	N	Mean	SD(syy)	N	
Group I Tested on "The Robbers" 1st and on "The Sailor" 2nd	before: 15.1 (out of 28 q.) after: 17.2	2.6 2.1	106 106	before 14.6 (out of 28 q). after: 17.1	3.6 2.6	121 121	F= 0.01 Df 1/225 Not significant
Group II Tested on "The Sailor" 1st and on "The Robbers" 2nd	before: 14.7 after: 17.2	2.3 2.4	93 93	before: 14.1 after: 17.4	3.0 2.9	74 74	F= 2.53 Df 1/164 not significant

Table 9: Analysis of covariance for experiment 3

Source	SSEE	DF	MSQ	F
Group I:				
Within	1190.009	224	5.313	F 1/224= .001
Between	.004	1	.004	not significant
Total	1190.013	225	---	
Group II:				
Within	1151.777	165	7.023	F 1/165 = 2.53
Between	17.827	1	17.827	
Total	1169.605	166	---	not significant

The results of the third experiment in relation to pupils' IQ scores reveal a similar picture to the one found for the second experiment: Pupils with low IQ scores (less than 100) who studied with television made greater progress than their counterparts who studied without television.

The "no-significant" difference between the TV and the non-TV groups as a whole in the average progress is accounted for by the fact that among pupils of high IQ scores (111+) those who studied without television advanced more in reading comprehension than those who studied with television.

Table 9a shows these results:

IQ Level	Pupils with TV					Pupils without TV				
	N=	Before		After		N=	Before		After	
	170	X	SD	X	SD	157	X	SD	X	SD
-90	18	13.9	2.6	17.0	2.7	26	14.3	4.4	15.4	4.2
91-100	32	14.7	2.9	16.5	2.6	37	15.4	2.9	16.7	2.2
101-110	67	15.8	2.6	16.7	2.1	45	15.3	3.8	16.0	3.5
111-120	48	16.7	2.4	16.8	3.2	42	15.7	2.5	17.0	2.4
121+	5	15.2	2.9	18.5	1.9	7	17.6	2.1	17.5	3.1

4. The effect of the TV course on active speech

The results of the experiment confirm the 4th hypothesis that a course using TV for demonstrating the use of the language in every day situations helps to improve pupils' active speech, in terms of both pronunciation and correct sentence construction.

The "Wilcoxon Non-Parametric Test," which was used to test the differences in achievements between the TV and the non-TV pupils showed that the achievements of the TV pupils on the test were significantly better than those of pupils from the parallel classes.

The level of significance for the whole test was .005. For the questions emphasizing structure and sentence construction it was .025 and for the questions emphasizing pronunciation it was .025.

Table 10: Results of the 4th experiment

Part of oral test	T value expressed by the sum of rank differences with less frequent sign (TV minus non-TV)	Level of TV Significance
Part 2 (emphasizing structure)	-11	.025
Part 3 (emphasizing pronunciation)	- 9	.025
Total (Parts 1-3)	- 5	.005

	Mean Scores: TV Pupils	Non-TV Pupils
Total	80%	73%
Part 2	81%	73%
Part 3	73%	62%
Part 1 (Pre-Test)	86%	86%

APPENDIX

Table 1: Sex distribution of experimental and control groups:

Sex (in %)	Film Experiment		Tape Experiment		Reading Experiment	
	TV group	Non-TV group	TV	Non-TV	TV	Non-TV
% boys	40.5	38.0	40.0	40.3	44.6	41.8
% girls	59.5	62.0	60.0	59.7	55.4	58.2

Table 2: % in Experimental and control groups speaking a second language at home

% speaking a second language	Film Experiment		Tape Experiment		Reading Experiment	
	TV	Non-TV	TV	Non-TV	TV	Non-TV
no other language spoken	60.9	62.7	65.5	64.7	68.6	68.0
Another language spoken, but not English	36.5	34.9	29.8	31.2	30.6	31.1
English spoken at home	1.6	2.3	4.6	4.1	0.8	0.9

Table 3: Film Experiment -
Frequency of seeing English speaking Films during the experimental year.
(Average % of four periods)

Frequency of seeing an English speaking film*	Percent seeing	
	TV Group	Non-TV group
At Least once a week	44	39
At least once in two weeks	19	23
At least once in 3 weeks	18	21
At least once a month	9	11
Less often	9	9

* The question for each period was;

"When was the last time that you saw an English speaking film?"

// This week

// A week ago

// 2 weeks ago

// 3 weeks ago

// more than 3 weeks ago